

§ 25.1503

the crewmembers as prescribed in §§ 25.1541 through 25.1587.

[Amdt. 25-42, 43 FR 2323, Jan. 16, 1978]

OPERATING LIMITATIONS

§ 25.1503 Airspeed limitations: general.

When airspeed limitations are a function of weight, weight distribution, altitude, or Mach number, limitations corresponding to each critical combination of these factors must be established.

§ 25.1505 Maximum operating limit speed.

The maximum operating limit speed (V_{MO}/M_{MO} airspeed or Mach Number, whichever is critical at a particular altitude) is a speed that may not be deliberately exceeded in any regime of flight (climb, cruise, or descent), unless a higher speed is authorized for flight test or pilot training operations. V_{MO}/M_{MO} must be established so that it is not greater than the design cruising speed V_C and so that it is sufficiently below V_D/M_D or V_{DF}/M_{DF} , to make it highly improbable that the latter speeds will be inadvertently exceeded in operations. The speed margin between V_{MO}/M_{MO} and V_D/M_D or V_{DF}/M_{DF} may not be less than that determined under § 25.335(b) or found necessary during the flight tests conducted under § 25.253.

[Amdt. 25-23, 35 FR 5680, Apr. 8, 1970]

§ 25.1507 Maneuvering speed.

The maneuvering speed must be established so that it does not exceed the design maneuvering speed V_A determined under § 25.335(c).

§ 25.1511 Flap extended speed.

The established flap extended speed V_{FE} must be established so that it does not exceed the design flap speed V_F chosen under §§ 25.335(e) and 25.345, for the corresponding flap positions and engine powers.

§ 25.1513 Minimum control speed.

The minimum control speed V_{MC} determined under § 25.149 must be established as an operating limitation.

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§ 25.1515 Landing gear speeds.

(a) The established landing gear operating speed or speeds, V_{LO} , may not exceed the speed at which it is safe both to extend and to retract the landing gear, as determined under § 25.729 or by flight characteristics. If the extension speed is not the same as the retraction speed, the two speeds must be designated as $V_{LO(EXT)}$ and $V_{LO(RET)}$, respectively.

(b) The established landing gear extended speed V_{LE} may not exceed the speed at which it is safe to fly with the landing gear secured in the fully extended position, and that determined under § 25.729.

[Doc. No. 5066, 29 FR 18291, Dec. 24, 1964, as amended by Amdt. 25-38, 41 FR 55468, Dec. 20, 1976]

§ 25.1516 Other speed limitations.

Any other limitation associated with speed must be established.

[Doc. No. 2000-8511, 66 FR 34024, June 26, 2001]

§ 25.1517 Rough air speed, V_{RA} .

A rough air speed, V_{RA} , for use as the recommended turbulence penetration airspeed in § 25.1585(a)(8), must be established, which—

(1) Is not greater than the design airspeed for maximum gust intensity, selected for V_B ; and

(2) Is not less than the minimum value of V_B specified in § 25.335(d); and

(3) Is sufficiently less than V_{MO} to ensure that likely speed variation during rough air encounters will not cause the overspeed warning to operate too frequently. In the absence of a rational investigation substantiating the use of other values, V_{RA} must be less than $V_{MO}-35$ knots (TAS).

[Doc. No. 27902, 61 FR 5222, Feb. 9, 1996]

§ 25.1519 Weight, center of gravity, and weight distribution.

The airplane weight, center of gravity, and weight distribution limitations determined under §§ 25.23 through 25.27 must be established as operating limitations.

§ 25.1521 Powerplant limitations.

(a) *General.* The powerplant limitations prescribed in this section must be